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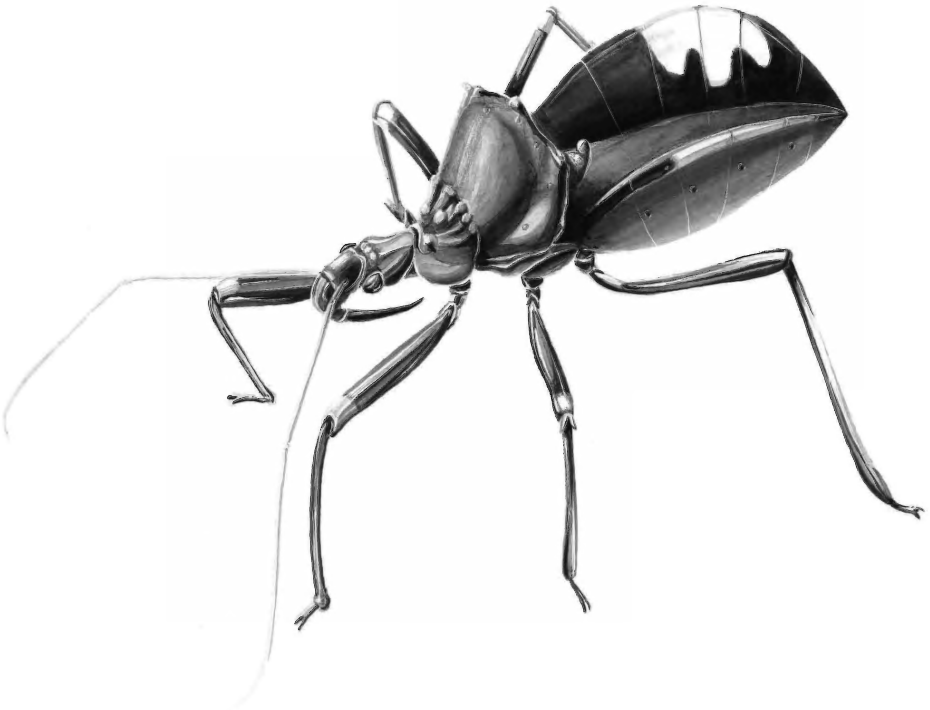

Front Cover: Image of an assassin bug submitted to the AES Illustration Competition by Luke Davies.

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CONTENTS

EDITORIAL..... 2

PRESIDENT'S MESSAGE..... 2

FROM THE EXECUTIVE..... 3

REGIONAL NEWS..... 5

Northern Territory..... 5

New South Wales..... 8

Tasmania..... 12

ACT..... 15

Queensland—South east..... 18

Queensland—Far North..... 28

Western Australia..... 29

Victoria..... 30

CONFERENCES..... 31

GENERAL INTEREST..... 34

RESEARCH GRANTS..... 35

SCIENCE MEETS PARLIAMNET..... 36

MEMBERSHIP NOMINATION FORM 40

SCHOLARSHIPS..... 41

NOTICE

Statements made in *Myrmecia* do not necessarily represent the views of the Australian Entomological Society.

EDITORIAL

Whilst putting this issue of *Myrmecia* together the question in my mind (other than "Where the heck has this year gone?") has been "Where is the future of Australian science headed?". This issue is raised in Stephen Doggett's SmP report (see pg 36). At least once a week I read or hear of the decline of science in Australia, whether that be entomology, agricultural science, maths or physics. An infinite number of reports supporting the notion that education and research is for the greater good would not move the incumbent federal government to increase the funding to higher ed institutions or research institutions, and move away from the constant need to rationalise research through commercialisation. Will the education initiatives established in many fields ensure their survival or will courses and research in these fields disappear into the ether because they are deemed to not be profitable? Only time will tell.

PRESIDENT'S MESSSAGE

We have recently received the news that our journal has maintained its 2005 impact factor at 0.727, which places it almost exactly in the middle of the world's entomological journal rankings. This is good news, but there is still scope for improvement, so keep your high-quality manuscripts coming.

This caused me to reflect about the effect that the proposed Research Quality Framework (RQF) is having on the publication behaviour of some of our scientists, particularly those who are currently setting out on their career. Briefly, under the proposed RQF scheme, universities will receive the major share of their research infrastructure funding on the basis of the performance of their nominated research groups. Amongst other things, this performance will be measured by the impact factors of the journals in which the group members publish.

I have noticed that this is resulting in younger scientists submitting their manuscripts to journals with extremely high impact factors. This is a laudable move, and I wish these scientists well in these endeavours. However, these journals cannot possibly publish all of the manuscripts that they receive, which logically results in them having high rejection rates. Authors on the receiving end of rejection letters often respond by resubmitting the manuscript to the next appropriate journal on the impact factor ranking list. While this is resulting in the increasing exposure of Australian science, it has the potential to cause considerable angst and disappointment if too many rejection letters are received. It also delays the publication of the work.

There are many excellent journals amongst the lower impact factor ranks. Some of these are more specialised (e.g., ones which are devoted to particular regions, particular taxa, or particular areas of entomology). Such journals may be more inclined to accept manuscripts that are of more regional interest, those that focus on particular taxa or those that relate to a specialised area of entomology.

There may also be the need to publish findings in order to disseminate the information to client groups as rapidly as possible. Waiting for the normal publication process to take its course may result in untimely publication, possibly after the findings were really needed by the client or the

community. It is here that in-house reports (preferably with an ISSN or ISBN number) may have a role. They won't earn many points with the government agency that scrutinises our publications, but the author may receive considerable kudos from the clients or community members for which the research was designed to assist. Any concerns about subsequent double publishing at the journal submission stage could be overcome by placing the iniitial report on the web, rather than in a hard-copy document.

Thirdly, there are popular articles, which are written for the layperson to read. These earn no points with DEST. However, they serve an important purpose. Speaking personally, I firmly believe that one of my articles in the Australian magazine *Geo* had an order of magnitude more impact in influencing people than the corresponding articles that were published in learned journals.

None of this is meant to deter you from aiming high with your publications; I encourage you to keep doing so. What I suggest is that you aim for a mix of publications, comprising high impact articles in internation journals, specialist or local publications, reports, and popular articles for the non-scientist. In doing this, you will avoid excessive angst as a result of the stringent publication requirements of some of the top journals, and will see your work being published in a timely manner, leaving you more time to get on with the next manuscript.

I look forward to seeing more Australian entomological articles, in top journals, in a range of other journals, in popular articles and, first and foremost, in our own journal

Jonathan MAJER

FROM THE EXECUTIVE

The Executive met on 5 April, 10 May and 14 June.

Jenni Tarleton, who has been providing clerical support for the Executive, has moved into a position in the OAI library and has been replaced by **Carmen King** as AES clerical support. We thank Jenni for her efforts and welcome Carmen to the team.

From the minutes

The Executive has revived the AES Research Grants scheme (details elsewhere in this issue). The scheme is funded by interest earned from the ICE 2004 surplus and we hope that this will provide some useful support for members, particularly those who don't have significant institutional support.

2007 AES Conference. Organisation for this meeting is well advanced and we are hoping that members will participate. Alan Yen and his team have put together an excellent program with details available on the conference website at http://aes2007.org/

2008 AES Conference. The Executive has decided that we would like to host the 2008 meeting in Orange, NSW. The Orange organising committee comprises **Murray Fletcher, Geoff Gurr, Aaron Simmons, Peter Gillespie, Danuta Knihinicki** and **Emma Cottage** so we have a good representation across the institutions in the city. The committee has met once and is planning for a small but very special meeting in September 2008 in the dress circle of NSW. Themes suggested so far include insect conservation and minesite regeneration, both of which have

relevance to the Central West of NSW.

It was initially hoped that members in NT would be interested in hosting the meeting since we haven't been to NT since the 2000 meeting in Darwin but members in NT are few and far between (literally!) and felt unable to put in the required effort. One really useful outcome, however, was the appointment of **Chris Palmer** in Alice Springs to the vacant NT Regional Councillor position so we are pleased that we now have a full complement of Regional Councillors again and thank Chris for volunteering for this position.

2009 AES Conference. The 2009 conference will be a combined conference with the Australasian Plant Pathology Society with significant funding support from the CRC National Plant Biosecurity. Initial discussions have established that it will be genuine combined meeting, rather than comprising parallel sessions, to enable cross-fertilisation between the two disciplines. There are significant areas of overlap, including biosecurity/quarantine, disease transmission, taxonomy, ecology, pest and disease management and others. Since such a meeting will be very much larger than the usual AES meetings (APPS regularly get more than 400 delegates to their conferences), venues were limited to major cities and it has been decided that the meeting will be held in Sydney. This means that we will have two consecutive AES conferences in NSW (a consequence of not going to NT) but the meetings will be very different in scale and content. We need two representatives of AES to join the organising committee, at least one to be based in Sydney. If we don't get volunteers for this, we will be contacting members direct.

Next Executive. The current Executive fulfils its term of office at the 2008 AGM and based on the table below, it is evident that the Executive has never been hosted by Tasmanian members and is due to return to ACT after that. We are awaiting enthusiastic responses from Tasmania volunteering for these career-enhancing positions.

PREVIOUS AES EXECUTIVES

YEAR	STATE	MEMBERS
1980-1984	NSW	Shipp/McDonald, Brown, Holloway
1984-1987	ACT	Rothschild, Carne, Weir
1988-1991	WA	Sandow/Ridsdill-Smith, Majer, Hill/Davis
1992-1996	SA	Allen, Madge/Taylor, Jennings
1997-2000	Qld	Zalucki, Walter, Brancatini
2001-2004	Vic	Ridland, Endersby, Endersby
2004-2008	NSW	Fletcher, Gurr, Thwaite

From the Treasurer

Elsewhere in *Myrmecia* you will find an invitation to apply for a small Research Grant. Following discussion at the 2005 AGM held in Canberra, the Executive set aside part of the surplus from

the Brisbane 2004 ICE to generate funds to provide the annual Grants. The first year's interest on the funds has now been received and the Executive is ready to award the first of these Grants. The process and requirements are not onerous and if you think you have a small project worthy of support, please make an application.

Each year at our AGM, membership figures are provided. There has been a trend downwards, a reflection of the reduced number of opportunities for employment of entomologists both in the private and public sector. Never-the-less there are entomologists out there who really should be members of the Society. If there is someone working in entomology with or near you who isn't a member of AES, how about suggesting that they join? Application forms are on the Society website (see the back cover of *Myrmecia*) – nominate them and send in the form. The new membership year has just commenced, so now's a good time to join.

Subscription notices for 2007/08 were dispatched to members in early July and by the time you read this I hope you will have arranged for payment. We are in the final stages of phasing in the change in Membership Year which now aligns with the Society's Financial Year. You will see on the Subscription Notice that we have been lenient with those who have still not paid their 2006 subs, but our patience runs out in August! If you have overlooked payment for either 2006 or the first six months of 2007, please attend to it without further delay. Next time around, we will need to adhere to the Constitutional requirements.

You will also notice that the fees for 2007/08 remain largely unchanged from those set for the last several years. This has been made possible partly through the success of the Society Conferences held over recent years. The Executive looks forward to your support of the Beechworth (Victoria) Conference so it too can be the scientific, social and financial success as were Canberra and Adelaide.

Murray FLETCHER

Vice President

Grahame THWAITE

TREASURER

REGIONAL NEWS

NORTHERN TERRITORY

NT Department of Natural Resources, Environment and the Arts

Aquatic Health Unit

The Aquatic Health Unit is continuing the monitoring of stream health mainly in the Darwin Harbour catchment. Monitoring is carried out using aquatic macroinvertebrate sampling and the Australian River Assessment System (AUSRIVAS) for analysis. **Gisi Lamche** is getting closer to finalising the identification of 2006 samples, which will be reported on the website (http://www.nt.gov.au/nreta/naturalresources/water/aquatichealth/ausrivas/river.html) when completed. Sampling in 2007 concentrated on the Daly River catchment as well as on the Darwin Harbour catchment.

Biodiversity Conservation

A significant boost for entomology in the NT has been the appointment by Biodiversity Conservation of three entomologists in the last couple of years: **Michael Braby** in Darwin, **Anne Walters** in Katherine, and **Chris Palmer** in Alice Springs. Michael Braby has been finishing off surveys relating to completion of the National Recovery Plan for the Gove Crow Butterfly (*Euploea alcathoe enastri*), and reports that the trip in June was very successful. The last surveys are planned for August. He has also been developing a database for an Atlas of NT Invertebrates, and will be attending a Lepidoptera workshop in Canberra, and a conference for the Society or Conservation Biology at the University of NSW, both in July. Chris Palmer established a long-term (18 month) trapping site at Simpsons Gap (west of Alice Springs) in September 2006, and is busy with sorting and identification of monthly samples from malaise and pitfall traps. The aim is to detect seasonal changes and environmental cues for emergence for many groups in the central arid zone. Chris met with **Gunter Maywald** (CSIRO Entomology, Brisbane) in April, when Gunter passed through Alice Springs on his travels looking for chrysomelid beetles. In June, **Gimme Walter** (Dept of Zoology and Entomology, UQ) and **Penny Greenslade** (School of Botany and Zoology, ANU) also visited the Red Centre: Gimme to provide entomological input into the National Recovery Plan for the MacDonnell Range Cycad *Macrozamia macdonnellii*; Penny to collect Collembola in central Australia prior to participating in the Australian Geographic Society's Scientific Expedition to the northern Simpson Desert in the first half of July.

Left : Ben Hoffmann of the CSIRO taking photos of Argentine ants in one of Hawaii's tourist hotspots....

Charles Darwin University - School for Environmental Research

The Darwin mosquito project (at SER: **Guojing Yang**, **Lubomir Bisevac**, **Grant Williamson**), in consultation with the Medical Entomology Branch of the NT Health Department, have begun planning a major mosquito control manipulation experiment based at Holmes Jungle Swamp. The experiment aims to compare the effect of using fire to remove vegetation prior to larval

hatching, with traditional insecticidal spraying, in a variety of mosquito habitats. In addition, the experiment will provide vital life-history parameters for the transition from larval stages to adults. One-meter square quadrats will be used, defined by a metal wall, and the reed and sedge vegetation will be manipulated by burning and mechanical removal, while a subset of the quadrats will be protected from the aerial spraying that is carried out in the area. Following the highest tide of October, the peak breeding event for the salt-marsh mosquito *Aedes vigilax*, the experiment kicks into gear, with daily larval and adult mosquito counting.

Piers Barrow is close to completing his PhD on the fire ecology of Leichhardt's grasshopper (*Petasida ephippigera*). Their *Pityrodia* host plants show a strong affinity for the more rocky substrates in the sandstone escarpment country of the Top End, which gives the grasshoppers a distinctly patchy distribution. Tagging studies have shown only limited migration between these patches, and the grasshopper populations appear to be quite vulnerable to the large, intense fires characteristic of contemporary sandstone fire regimes.

The NT Field Naturalists Club butterfly group is continuing surveys in the north-western Top End, including a re-survey of Kakadu National Park, which has already greatly expanded our knowledge of the Park's fauna.

CSIRO Sustainable Ecosystems – Tropical Ecosystems Research Centre

Dr Ben Hoffmann recently presented at the world's first International Pacific Invasive Ant Conference in Hawaii where he touted CSIRO's pest ant eradication and management efforts in the Top End to 130 visiting scientists and managers. Ben was pleased to discover Australia's management of pest ant species is amongst the best in the world, and he took the opportunity to visit test eradication sites using new products on two of Hawaii's islands, as well as to see the research sites of other ant ecologists. Hawaii is an ideal location for an invasive ant conference as the islands have no native ant faunas, but are now being decimated by almost 100 invasive ant species. Ben reports that very few places in the world demonstrate the impacts of invasive ants as well as Hawaii. While Australia has some of the world's worst invasive ant species, he attributes our management success to the remoteness and small scale of the infestations and new methods being used, including helicopters fitted with a differential GPS and more specialised baits. Ben also reported the eradication of the Daly River African big-headed ant with a single treatment, and great results with other infestations in the Tiwi Islands and north-east Arnhem Land.

Dr Tracy Dawes-Gromadzki won the AusIndustry award for New Generation Research and Innovation in March. These awards are a scheme of the Australian government business program delivery division supporting business innovations. Tracy was nominated for her development of a mechanistic understanding of the roles that soil fauna play in the function and health of tropical soils, and the consequences of these relationships for biodiversity and sustainable land management practices across the grazing lands of northern Australia. Tracy has also developed a protocol for using changes in soil macro-invertebrates as early warning indicators of declining soil health.

Department of Primary Industry, Fisheries and Mines

DPIFM entomology staff (**Brian Thistleton**, **Deanna Chin**, **Haidee Brown**, **Heather Wallace** and **Michael Neal**) have recently been involved with biological control of two species of whiteflies. The spiraling whitefly continues its spread through Darwin but the *Encarsia* parasites from Cairns introduced as a biocontrol agent in 2006 are having a good effect. There have been several media releases, and we have answered numerous enquiries on this pest. The parasites

(*Eretmocerus hayati)* for the silverleaf whitefly (*Bemisia tabaci* biotype B) were supplied recently by **Paul de Barro** (CSIRO) and have been released in Darwin, Katherine and Alice Springs.

Deanna Chin and Brian Thistleton attended the recent mango conference in Queensland and Deanna presented a paper on mango flower pests based on work carried out in Darwin last year. She has recently conducted a mango IPM workshop in Katherine and intends to repeat the flower pest study there. Deanna also attended a meeting in Sydney to participate in a workshop of entomologists and plant pathologists to review the Citrus Industry Biosecurity Plan.

Brian has been involved in several projects overseas. Last year he and Michael Neal completed a survey of *Mastotermes darwiniensis* in Lae, PNG. This species was introduced during WWII and, despite having been there for sixty years, still only occurs in two small areas. However now that there is no longer official containment and control, the species is spreading and could become more serious if it moves to drier areas in PNG.

Brian has also participated in a project in ASEAN countries providing training in the development of specimen based pest lists for mangoes. This has involved a training workshop in Vietnam and several mentoring visits to Cambodia, Laos, Myanmar and Vietnam.

Lanni Zhang is preparing for a forthcoming trip to China on an OCPPO diagnostic training scholarship to study the taxonomy of tetranychid mites.

Chris PALMER

NEW SOUTH WALES

Australian Museum Entomology Collections & Research

Visitors to the Australian Museum might notice that the construction of the new Collections & Research Building has started in earnest. There is now a 6m drop outside of what used to be the front door of Entomology, and the jackhammers are relentlessly pounding during most of the working week. Needless to say, there has been little microscope work done over the past month or so.

There has been some recent field work, with Dan Bickel, Shane McEvey and Jean Wiener visiting the Moulds residence in Kuranda in late March, where the collecting was very good for Drosophilidae, Dolichopodidae and other flies. A series of an interesting drosophilid was collected from the flowers of *Pandanus*, whilst two individuals of the rarely collected fly *Formicosepsis tinctipennis* (Cypselosomatidae) were also found in Max's backyard.

We've had a number of visitors to the collection since I last submitted a report to Myrmecia in 2006. These include Lars Krogmann, Adelaide Uni (Pompilidae), Mike Wilson, National Museum of Wales, Cardiff (Auchenorrhyncha), Axel Kallies, Walter Eliza Institute (Sesiidae, Brachodidae), Maclean Vagalo Dept. of Agriculture, Solomon Islands (Chrysomelidae), Tom Weir, ANIC (Scarabaeidae, Heteroptera), Paul Brock, UK (Phasmatodea), Dave Marshall & Kathy Hill, Uni. of Connecticut, USA (Cicadidae), David Rentz, Kuranda (Dermaptera, Orthoptera), James Goodwin, Jarvis Christian College, USA (Tabanidae), Lars Hendrich, Zoologische Staatssammlung Munchen, Germany (Dytiscidae), and John Marris, Lincoln University, NZ (Cucujidae), Barb Sharanowski, U. Kentucky, USA (Braconidae), Emilie Bess, Illinois Natural History Survey, USA

(Psocoptera), Wojciech Pulawski, Cal. Academy, USA (Sphecidae).

Staffing movements of note include the employment of four temporary Technical Officers in the Entomology collection. Alex Hegedus has been databasing beetles, Max Beatson is dealing with loans, Georgie Brown has been mounting, labelling and sorting flies and beetles, and Jacquie Recsei has been curating our long neglected collection of Orthoptera. Unfortunately Jacquie's project management skills were identified by the AM senior management, and she has been seconded onto the building project as the project liason manager for the Museum until late 2008. We hope she comes back to us in one piece!

Gerry Cassis has accepted a senior professorial position at UNSW which has left a huge gap in our research staff at the Museum. Gerry has been a consistent winner of large research grants, has provided career starts for many students and technical staff, and has been a leading light in systematic research at the Museum, so he will be sorely missed. He will retain some research links with the AM, and we wish him all the best in his new home down the road.

Kerinne Harvey who was an Honours student from Uni. of Wollongong co-supervised by Dave Britton has commenced a Ph.D. with Lesley Hughes at Macquarie University, with Dave as a co-supervisor at the AM. Her project will examine the potential for change in insect communities on introduced weeds with climate change.

Dave BRITTON

University of Sydney, Faculty of Agriculture

This year four students have joined the agricultural entomology research group at the Faculty of Agriculture, Food and Natural Resources, University of Sydney to complete their fourth year research projects. They are: Brendan Langfield (BScAgr) studying host specificity of currant lettuce aphid; Zoltan Magyar (BHortSci) studying population dynamics of cecid flies in mushrooms; Jennifer Spinner (BScAgr) studying the distribution of silverleaf whitefly and its associated parasitoids in the Sydney region and Elaine Tou (BHortSci) studying the taxonomy of dolichopodid flies in mangroves.

Sarah MANSFIELD

EMAI Parasitology

Lice detection test (LDT) project: In the absence of continuing funding from Australian Wool Innovation that might have resulted in an 'on-farm' diagnostic test kit, **Paul Young** and **Garry Levot** are streamlining the laboratory test so that it can be made commercially available through the Diagnostic and Analytical Services Branch of NSW DPI later this year.

Small Hive Beetle project: The project on the in-hive control of Small Hive Beetles using insecticide treated refuge traps developed by **Garry Levot** during the project is drawing to a conclusion. Field efficacy trials with the Small Hive Beetle harbourages conducted under APVMA Permit PER9732 were completed by Garry with assistance by **Nick Annand** (Apiary Officer, Bathurst) and Mr **Bruce White** (RIRDC Honey Bee Research Committee). Outstanding control (90-99% reduction) of adult beetles was achieved at each of the three trial sites. Garry completed destructive sampling of the 80+ harbourages removed from the hives at the

completion of the trials and retrieved as many as 164 beetles from a single harbourage. All hives thrived with no adverse effects on bees noted. Previous work demonstrated that use of the harbourage does not lead to insecticide residues in honey. Results were communicated to Rural Industries Research and Development Corporation which, along with NSW DPI, funded the research. Mr **Doug Somerville**, Apiary Specialist (NSW DPI, Goulburn) reported on this project at the NSW Apiarist's Association Annual Conference in Inverell (24th May).

Insecticide resistance project: Narelle Sales began bioassay work to measure the effectiveness and speed of kill of ivermectin and spinosad-based products against third instar *Lucilia cuprina* larvae.

EMAI Entomology Insecticide Resistance

Grant Herron consolidated 3 years bioassay data for the collaborative onion thrips study VN04004 headed by **Jianhua Mo** at Yanco. The onion thrips study VN04004 was reviewed at a national meeting held at EMAI on the 28th May. At that meeting Grant presented a PowerPoint summary of Entomology Insecticide Resistance's contribution to the study and provided guidance on future chemical research. In addition, **Martin M^{c}Loon**, molecular biologist, gave an introduction to possible molecular techniques that could be used in conjunction with onion thrips. The meeting was also attended by Entomology Insecticide Resistance staff members **Jeannette Rophail** and **Tanya Tomlinson**.

Grant gave a seminar titled 'The changing face of secondary pests in Australian cotton' at the April NSW Entomological Society meeting.

Martin M^{c}Loon, Molecular Biologist will soon ship the final 500 cotton aphid samples to **Flavie Vanlerberghe-Masutti** INRA-UNSA "R.O.S.E." France. This will finish the Entomology, Insecticide Resistance contribution to this collaborative effort in DAN184 between Grant Herron, **Lewis Wilson** (CSIRO), Martin M^{c}Loon and Flavie Vanlerberghe-Masutti. Martin has also spent some time researching and planning a collaboration with **Louise Rossiter** (DPI, Narrabri) to help her identify and characterise a novel *Helicoverpa* spp. esterase.

Jeannette Rophail has started the 06/07 season testing of two-spotted mite from cotton as part of DAN184. Jeanette has also been preparing special mirid cages and food containers as a first step to culturing mirids at EMAI.

Dr **Swaminathan Thalavaisundaram** 'Swami' has joined the Entomology Insecticide Resistance team and is currently looking after the 06/07 cotton aphid resistance testing as part of DAN184. Swami is now some way through the testing that has been slowed by a hymenopterous parasite that has been killing the aphids. Swami with the help of **Carolyn Griffin** has been trying to maintain aphids while eliminating destructive parasites.

Tanya Tomlinson and **Graeme Gullick** continue to concentrate on the cross resistance testing for VG06010.

University of New England: Insect Ecology Lab – local contact **Nigel Andrew**

Nigel Andrew and **Kerri Clarke** have been continuing their assessment of field sites around Coffs Harbour, Newcastle, Pilliga, Yathong/Round Hill and Fowlers Gap for *Acacia* herbivore sampling sites (collections will start in August).

Tom Mooney, **Amanda Guest** and **Mitch Smidt** are ploughing through their projects, but were momentarily sidetracked to attend an intensive statistics workshop run by **Stuart Cairns UNE** for two weeks in June. Two new Honours students will start in the Insect Ecology lab in July: **Michelle Yates** will assess ant community structure and morphology between pastures and native remnants along a moisture gradient; and **Katy Bairstow** will be assessing insect leaf-mining and galling diversity and morphology on *Acacia* in different climatic zones. **Despina Hatzimanolis** will be conducting a six month project on visitation rates of insect pollinators to a range of *Acacia* species in the New England region.

Claudio Sedivy, a former student at the Institute for Plant Sciences ETH Zurich (Masters title: Evolution of host plant choice in the oligolectic bee genus *Chelostoma*) will be visiting the lab soon as part of an internship before he begins his PhD. Claudio's Masters supervisors were Professor **Silvia Dorn** of Applied Entomology and Dr. **Andreas Müller**, bee specialist and curator of the entomological collection of the ETH Zurich.

Nereda Christian has been employed to assist in updating and modularisation of the second year Entomology unit for 2008. Nigel is also involved with a four-university consortium (including Dave Merritt - University of Queensland, Geoff Gurr - Charles Sturt University and Mike Keller - University of Adelaide,) that has got through the expression of interest stage for a Carrick Institute Competitive Grant scheme project *A National Curriculum for Entomology: Capacity Building Through Collaborative, Web-based Delivery*. The full application is currently being developed.

Orange Agricultural Institute

Holger Löcker has been appointed to a temporary position working for **Andrew Mitchell** but located at OAI. This provides a direct link between the Wagga Molecular laboratories and the Scientific Collections Unit in Orange. The position is for an initial period of twelve months but eventually will be advertised as a permanent technical officer position. This has taken some of the worry out of Holger's life since he is about to have an extra mouth to feed in his family (due late July).

Murray Fletcher has received ACIAR funding to attend the 10th Plant Virus Epidemiology Symposium in Hyderabad, India in October. This funding flowed from his involvement in a project with **Geoff Gurr** (CSU Orange), **Charles Dewhurst** (OPRA West New Britain) and **Andrew Mitchell** (NSW DPI Wagga) investigating the causes and possible management of Finschafen Disorder in oil palms in New Guinea. The disorder has been linked to a planthopper, *Zophiuma lobulata* Ghauri (Lophopidae). A post doctoral fellow is to be appointed to undertake the field and laboratory work and interviews were recently conducted with an interview panel brought together by teleconference linking four centres in NSW and New Guinea interviewing candidates scattered around the globe. The difference in time zones made it difficult, particularly for candidates being interviewed in the early hours of the morning!

An interesting parallel development is the comparable effect *Magia subocellata*, also a lophopid planthopper, is having on palm trees in the Royal Botanic Gardens, Sydney. The presence of *M. subocellata* in Sydney was discovered through **Peter Gillespie**'s Hazard Sites Surveillance Program, as reported in an earlier issue of *Myrmecia*. Peter also picked up the Sycamore Lace Bug on plane trees in Sydney although this was not identified until **Mike Wilson** (National Museum of Wales) chanced to see the damage to the trees on a fleeting visit through Sydney on his way to Fiji.

Nigel ANDREW

TASMANIA

University of Tasmania

School of Agricultural Science and TIAR

Phil Weinstein (University of Western Australia) visited **Geoff Allen** and **Paul Walker** in June to discuss possible collaborative chemical ecology projects. In another but unrelated connection to WA, Paul is currently wading through light trap captures of autumn gum moths (*Mnesampela privata*) collected by **Mamoru Matsuki** (Albany) in eucalypt plantations. Numbers of autumn gum moths in Tasmania remain low again this year making pheromone studies of this species frustrating. However, late in the flight season, we did manage to catch low numbers of male moths in traps baited with what we think may be a second component of the female pheromone. Further investigations are underway. **Lisa Bird** continued to analyze eucalypt leaves to measure their foliar concentration of imidacloprid as part of the chrysomelid trap tree project with **Jane Elek** (Forestry Tasmania).

School of Geography & Environmental Studies

Peter McQuillan reports that **Lynne Forster** has submitted her Masters thesis on the relationships between litter dwelling beetle communities, environment and forest types in eastern Tasmania. On a related theme, **Nick Jones** has submitted his Honours thesis examining the communities of invertebrates associated with tree ferns (*Dicksonia antarctica*). More than a hundred species of beetles are associated with these ferns, with a species of anthribid beetle the most abundant. The litter perched in the crown of the ferns is shown to be especially rich in insects. There is a thriving export trade in tree ferns to the UK and Nick's thesis was supported by the Forest Practices Authority and the two Drs **Simon Davies** and **Simon Grove**.

Forestry Tasmania

Simon Grove reports that he spent a most enjoyable week in April visiting John Spence's lab at the University of Alberta. Many of John's students are working on similar ecological research issues in Canadian boreal forests as Simon is working on in Tasmanian forests, with arthropods featuring prominently. The parallels run deep since they have an experimental forest landscape (EMEND) similar in concept to FT's Warra LTER site and associated wildfire chronosequence plots. More recently, Simon and **Marie Yee** have been spending a bit of time getting to know the threatened giant velvet worms of NE Tasmania and their 'mudguts' habitat. They seem to have survived the Scamander – St Marys bushfire quite happily, which gives them hope for their future even in production forestry areas if we can develop management approaches that allow for long-term recruitment of suitable rotting logs. A paper on some of their recent work on this species appeared in *Ecological Management and Restoration* this April, and was followed up with a joint presentation at the 'Biodiversity – balancing conservation and production' conference in Launceston in June.

In May, **Dick Bashford** visited South Africa to attend the International *Sirex* workshop in Pretoria and Pietermaritzburg, where he gave a presentation on the Australian *Sirex* monitoring programme. Subsequently Dick visited Tumbarumba, near Tumut in NSW, to advise Forests NSW on *Sirex* control. Meanwhile, the 2006/07 urban surveillance programme for wood-borers around Tasmanian ports, funded by DAFF and coordinated by FT, was completed in May, resulting in the trapping of some 11000 beetles including 850 target wood-borers. Dick and visiting American student **Zach Pompa** have recently prepared a report for Forestry Tasmania on 'Development of an urban surveillance protocol for exotic ants: urban surveillance hazard site

program, Tasmania'. Contact dick.bashford@forestrytas.com.au for further information.

Lynne Forster, **Russel Lewis-Jones**, **Kevin Bonham** and **Lisa Boutin** have continued sorting beetles from the Warra silvicultural systems trial, and are making sterling progress in what is a monumental task. The pressure is on as we hope to be able to report on some of the findings at the international 'Old Forests, New Management' conference that we are hosting in Hobart, 17th to 21st February 2008 (see http://www.cdesign.com.au/oldforests2008/ for details: registration is now open). In her spare time, Lynne has also made good progress in sorting out some of the previously intractable leiodid and carabid beetles in our Tasmanian Forest Insect Collection, a challenge that has involved her tracking down old papers and translating these from French.

Other people and places in Tasmania

David de Little donated his chrysomelid beetle collection to the Tasmanian Museum and Gallery (TMAG). He is working there 1 day a week incorporating it into their insect collection and updating the Chrysomelinae section in line with Reid's (2006) revision of the sub-family. **Ted Martin** has been upgrading his catalogue of Tasmanian Lepidoptera. There is an excellent new web site on **Tasmanian Lepidoptera** (http://www.tasleps.net/) created by **Alan Melville**. It contains several images of butterflies and moths found in Tasmania (and other parts of SE Australia) with notes on some species. Alan has mainly used his own photos to create the site but in order to fill gaps he would welcome contributions from other people. If you have photos that you wish to share, Alan can be contacted at tasleps@gmail.com.

Paul WALKER

SOUTH AUSTRALIA

Flinders University

We report to the society that Michael McLeish (left) has successfully obtained his PhD degree. Michael has been a member of our research group since his third year of Undergraduate studies (2001), and he has stayed with us for the completion of his honours and PhD. Michael brought with him to our lab a love of Australia's natural expanses and a serious commitment to his studies like only just a few that have come before him. We all recognized that it was time for Michael to move on, but we did not expect South Africa to be the beneficiary. Michael has taken a post-doctoral position in Cape Town at the Kirstenbosch Research Centre. He is now concentrating on issues that surround the co-evolution of figs and their associated pollinating and non-pollinating wasps. We wish him all the best, and hope that our paths intersect frequently despite the distance between us.

Thesis Title: Evolutionary Diversification of Australian Gall-inducing Thrips

Summary: Michael used a phylogenetic approach to investigate the processes involved in promoting and sustaining evolutionary diversification within the gall-inducing thrips that specialise on Australian *Acacia*. The extension of the gall-thrips phylogeny primarily involved the inclusion of the cryptic populations within what are called the *Kladothrips rugosus* and *Kladothrips waterhousei* complexes. His efforts have extended the current number of phylogenetic species from 22 to 54, potentially enabling stronger conclusions when conducting historical analyses in this clade. Among Michael's insights are that gall-thrips lineages have been largely tracking the diversification of their *Acacia* hosts, gall-thrips radiated during the expansion of the Australian arid-zone, cycles of host range expansion and fragmentation during the Quaternary could have played a major role in gall-thrips diversity. Michael has left behind a legacy that will benefit our work on the gall-inducers for some time to come.

Tom CHAPMAN

The University of Adelaide

Sally Thompson has joined Andy Austin's lab in Adelaide as part of the Platygastroidea PBI Project. Sally received her Bachelor of Environmental Science degree from Deakin University in Melbourne, majoring in biology. Her honours project investigated temporal and spatial variations in aquatic macroinvertebrates. For her PhD, she will, in part, be tackling the Afrotropical genus *Oreiscelio* (Scelionidae) under the supervision of Andy and John Jennings.

"*An interactive identification guide to the Australasian families of Hymenoptera*" compiled by **Nick Stevens**, **Claire Stephens**, **Muhammad Iqbal**, **John Jennings**, **John LaSalle** & **Andy Austin** has now been published. It provides the means to easily identify the 67 families of Hymenoptera that occur across Australasia, and contains hundreds of colour photographs and comprehensive information, including external hyperlinks. See http://shop.cbit.uq.edu.au/ProductDetails.aspx?productID=169

Brenda Kranz is in The Maldives for 1-2 years as a United Nations Volunteer to help the Ministry of Agriculture develop their IPM program. She is involved in the IPM training component of the nation's first certificate program in Agriculture for farmers, field school trainers and extension officers. She is also involved in setting up the new national quarantine facility, developing the nation's first legislation on pesticide use and doing a survey and writing a manual on major crop pests in Maldives and their management. Any entomologists who want to volunteer their services for helping the program, especially with insect IDs via either images and/or samples, contact Brenda at brenda.kranz@undp.org

Otto Schmidt, Kenneth Soderhall, Uli Theopold and Indrid Faye have been invited to write a review on "The role of adhesion in arthropod immune recognition" for the Annual Reviews of Entomology.

In June, **Andy Austin**, **Michelle Guzik**, **Nick Murphy** and **Tessa Bradford** attended the Evolution 2007 Conference held in Christchurch, NZ. Andy organised a symposium with **Steve Cooper** (SA Museum) on the Diversity and Evolution of Australian Troglobitic and Groundwater Invertebrates. Nick and Andy also presented a paper on the evolution of microgastroid wasps.

School of Pharmacy & Medical Sciences, University of South Australia

Craig Williams and **Stephen Fricker** have delivered Version 1.0 of their new Ross River virus early warning system software (RR Forecaster) to the SA Dept. of Health. Initial training sessions

in Adelaide and in the Riverland (Berri) took place in June.

Craig and Steve, along with **Sam Williams**, **Julie Riordan** and **Mel Schneemilch** have just wrapped up another season of mosquito surveillance and management work. Stephen recently completed his 8th season of mosquito work along the River Murray, working closely with six local governments. Julie has been doing saltmarsh mosquito management work in northern Adelaide while Mel just finished an assessment of mosquito production in urban wetlands.

Shaun O'Sullivan along with Craig, Mel and **Clive Watts** have also just finished teaching Invertebrate Biology 200 in semester 1. They were very fortunate to have **Archie McArthur** (SA Museum) give the students an ant identification workshop for their final practical.

The School will be welcoming **Michael Kokkinn** back from a year of teaching at Sultan Qaboos University in Oman.

SA Museum

Three years ago, **Archie McArthur** was collecting ants around Broome and called on **Tony Postle** at AQIS. Tony showed Archie his collection of *Camponotus* ants among which were two specimens Tony had collected from Turtle Island near Broome and which Archie had never seen before. Tony agreed to donate one specimen to the South Australian Museum and Archie's associate put it in a vial with spirit and put it in his pocket. Next morning, cleaning up for returning home, Archie asked "where is the Postle ant?" The red faced associate raced to the toilet where he had disposed of some unwanted ants and recovered it. In March this year, Archie saw *Camponotus nigroaeneus xuthus* in the Natural History Museum in Geneva and immediately recognised it as the type for the Postle ant. The writing on its label is that of August Forel and the locality is given as Kimberley District. It was described in 1915 but there is no reference to its collector and one may speculate as to its identity. In a report of the expedition to Western Australia by the Hamburg Museum published in 1907, Forel described several types of *Camponotus* collected in Western Australia. These were described in Geneva and returned to Hamburg where they destroyed in World War II. It is likely that *Camponotus nigroaeneus xuthus* was collected by the Hamburg Museum Expedition, retained in Geneva and survived. Survivor ant could be its common name.

John JENNINGS

AUSTRALIAN CAPITAL TERRITORY

ANIC

The builders are making steady progress on installing the compactus system to house parts of the collection. Two of the five planned banks of cabinets have now been fitted onto their mobile shelving units, but it will still take several months before we finish reorganising various cabinets that house the Hemiptera, Diptera, Hymenoptera, Orthopteroid and Neuroptera collections.

We celebrated two major publishing events in the last few weeks. The first was *A Guide to Australian Moths*, by Paul Zborowski and Ted Edwards. The combined skills and experience of the authors have produced an exceptionally attractive book that will be popular with specialist entomologists, amateurs, and general biologists. That was closely followed by *The Australian Ladybird Beetles*, by Adam Slipinski. This book reviews all 57 genera of Australian Coccinellidae, with diagnoses, descriptions and keys, profusely illustrated in colour and black and white. Its

publication will soon be followed by the development of a Ladybirds of Australia web site, supported and published by ABRS.

We had some good news about the approval of funding for some new activities. Under the Commonwealth Environment Research Facilities program (CERF), we are starting a major new project to develop a set of web-based keys to all 600 families of Australian insects. There will also be a new research initiative in ant systematics. These projects are part of a federally-funded program aimed at reversing the critical decline in Australia's research capacity in taxonomy and biodiversity. We will also be taking part in the Atlas of Living Australia project, under the National Collaborative Research Infrastructure Scheme (NCRIS) in the Department of Education, Science and Training (DEST). This is a collaboration between CSIRO, universities, state museums, and other commonwealth and state government agencies, which is intended to make biodiversity information more available and accessible on-line. We hope to be able to provide more details of these programs in the next issue.

Things have been busy in the Lepidoptera laboratory. Marianne Horak and Andreas Zwick took part in a pest Lepidoptera diagnostics workshop in Thailand, with support from our old friend Hari Sutrisno from Bogor, among others. The program was funded by the Thai Department of Agriculture and the Sanitary and Phytosanitary Capacity Building Program in DAFF, under the guidance of Ian Naumann. The 16 participants learned the arts of collecting and specimen preparation, as well as identification of the main Lepidoptera pests of Thai crops. We welcomed Roberta (Bobbie) Hitchcock, who has started a PhD project on a revision and phylogeny of the moth genus *Epiphyas*, which includes the light brown apple moth *Epiphyas postvittana*. The Lepidoptera team have also received a grant from the National Geographic Society to fund a year of research to find and identify the adult of the elusive Cooloola/Kin Kin moth.

Darren Peck has completed the first three months of a project that will provide remote microscopy/diagnostics capability to the Australian Quarantine and Inspection Service (AQIS). With the new web-based microscope technology, expert taxonomists at ANIC and intercepted invertebrate pests can be brought together immediately. This technology has the potential to substantially improve Australia's quarantine capability by avoiding delays in sending specimens to ANIC.

Adam Slipinski visited Bozeman, Montana to take part in an international workshop on beetle morphology for the Coleoptera Tree of Life project, where the 16 participants faced the challenge of developing a data matrix involving 600 characters. On the way back he visited the Bishop Museum in Honolulu to look at various beetle groups for the same project, as well as their large collection of Australian Coccinellidae. Francois Dolambi's work on the systematics and biology of the coccinellid genus *Bucolus* is nearing completion, and should soon be ready for publication. We congratulate Thomas Wallenius on his first class honours degree at ANU, on the chemical ecology of cycads and the weevils that pollinate them.

Cate Lemann, Michelle Glover, Barry Richardson and Ted Edwards ventured out to Cravens Peak, as part of an expedition organised and supported by the Royal Geographical Society of Queensland. Cravens Peak is a Bush Heritage Reserve on the NT/QLD border, straddling the western edge of the Channel Country and the eastern edge of the Simpson Desert, near Boulia QLD. They report that the landscape was very green as a result of recent heavy rain, but the invertebrate fauna had apparently not fully recovered from the preceding drought. Despite that, there was productive collecting of spiders, moths and beetles, which are now being processed. The team give special thanks to the members and volunteers in the RGSQ, who provided outstanding practical support that made the expedition possible.

Stephen Cameron reports that his molecular systematics laboratory is up and running. Current projects include a molecular phylogeny of some groups of lice, and a study of the species limits and population genetics of termites in collaboration with Theo Evans. Visiting PhD student Emilie Bess from the University of Illinois at Urbana/Champaign is working with Stephen on a molecular study of species radiation of some Hawaiian Psocoptera of the genus *Ptycta*, in a project supported by the NSF East Asia Pacific Summer Institute and the Australian Academy of Science.

Recent and current visitors included Michael Batley (Australian Museum), Remko Leijs (South Australian Museum) and Katja Hogendoorn (Adelaide University), who searched ANIC for blue-banded bees, as part of an ABRS-funded program to revise about 20 species in the genus *Amegilla*. Sonja Scheffer from the Systematic Entomology at Beltsville is visiting for 8 months to look at plant-feeding flies of the families Australian Agromyzidae and Fergusoninidae, as part of her research program on their systematics and the evolution of their food plant relationships, especially in relation to Myrtaceae. The thrips room was transmuted into the aphid room for two weeks during a visit by Bob Foottit, the aphid specialist from Canada. Bob was supported by DAFF to select slides of several aphid species for Ken Walker to photograph for the PaDIL project (Pests and Diseases Image Library). In addition Bob sorted the accumulation of several thousand aphid slides in ANIC into systematic order, and these were then arranged into new cabinets in a single series that reflects the ABRS web site checklist of Australian aphids. The room then reverted to its more normal use, and we welcomed Mark Hoddle from Riverside to help prepare the final stages of a Lucid system to the Californian thrips fauna. Other highlights this month included publication with Jon Martin of the BMNH of a new checklist of the world's whitefly fauna, and publication with David Morris of an account of a new genus of gall-inducing thrips including one species that is now a pest on *Myoporum* in western USA.

Bruce HALLIDAY

Left: ANIC molecular systematist Stephen Cameron and visiting PhD student Emilie Bess (University of Illinois). [Photo: Michelle Glover]

QUEENSLAND - SOUTH EAST

Alan Fletcher Research Station (AFRS), Sherwood

Alan Fletcher Research Station (Sherwood) along with the Tropical Weed Research Centre (Charters Towers) moved from Department of Natural Resources & Water to the Department of Primary Industries & Fisheries, under "**Queensland Biosecurity**" in March 2007.

In mid May DPI&F's Biosecurity Queensland researchers **Natasha Riding**, **Annerose Chamberlain** (Alan Fletcher Research Station, Brisbane), **Cathy Lockett** and **Kelli Pukallus** (Tropical Weeds Research Centre, Charters Towers) inspected coastal North Queensland and Atherton Tablelands areas for the presence of recently released lantana biocontrol agents. Scattered *Mimosa diplotricha* (=*M. invisa*) plants in the Tully area were also surveyed for the sap sucking bug *Heteropsylla spinulosa*.

Dianne Taylor is filling in for **Mike Day** who is on secondment to Mineral House till Mid-October 2007. **Deanna Bayliss** has taken over the job of **Michelle Rafter** who left to take up her PhD on South Africa Citrus Thrips.

Lantana project staff (**Dianne Taylor**, **Natasha Riding**, **Annerose Chamberlain** from the Alan Fletcher Research Station attended the 9th Queensland Weeds Symposium held at the Gold Coast in June. Two posters covering current biocontrol research for Lantana were displayed during the symposium.

Brendan P Missenden from the University of Queensland completed a 6-week CRC weeds summer research project on the interactions between the cat's claw creeper leaf-tying moth and the leaf-sucking tinged under the supervision of **Michelle Rafter** and **K Dhileepan**.

K. Dhileepan and his team (**Mariano Trevino** & **Deanna Bayliss**) celebrated the approval of a leaf-sucking tingid, a first biological control agent for cat's claw creeper in Australia, in May 2007.

Sarah St Pierre (School of Integrative Biology, University of Queensland) submitted her honours thesis titled "The response of an invasive liana to defoliation in sun and shade and the effects of plant light history on behaviour of a potential biocontrol species" under the supervision of **Associate Prof. Gimme Walter** (School of Integrative Biology, University of Queensland) and **K. Dhileepan.**

K. DHILEEPAN

Army Malaria Institute (AMI)

Bob Cooper spent 5 weeks during April-May in Vietnam conducting entomological surveys to study the malaria vectors in two communes in central and South Vietnam. The work is a collaborative effort involving the Military Institute of Hygiene and Epidemiology (MIHE), Hanoi; the Military Preventive Medicine Centre, Ho Chi Minh City; and the Institute of Malaria Parasitology and Entomology, Qui Nhon. **Do Manh Cuong**, an entomologist from MIHE, Hanoi, has been in Brisbane since March and has been working with Bob on correlating taxonomic and molecular identification of *Anopheles* sp. mosquitoes collected in Vietnam. The specimens are also being tested for the presence of malaria sporozoites using a standard ELISA method. Dr **Nigel Beebe**, from the University of Technology, Sydney, visited for a week in June, to provide

some expertise in applying PCR multiplex systems for separating cryptic species of *An. dirus* and *An. maculatus*.

Anopheles specimens sent in by Dr **Tom Burkot** (CDC Atlanta) from the Moluccas (Halmahera Is.), Indonesia indicated the presence of some competent Australian Region malaria vectors: *An. farauti s.s., An. farauti 2 and An. punctulatus.*

In February-March, **Steve Frances**, **Sarah Corcoran**, **Kerryn Rowcliffe** and **Donna MacKenzie** completed field evaluations at Redcliffe of some commercially available repellents as protection against mosquitoes. Between March and June, **Peter Gojkovic**, a final year Science student at UQ, conducted laboratory tests of repellents at AMI as a university entomology project.

Steve FRANCES

CSIRO Long Pocket Laboratories

The International Symposium on Biological Control of Weeds held in Montpellier, France, in April included 248 participants with 32 countries represented. Participants from LPL were **Tim Heard**, **Matthew Purcell**, **Shon Schooler** and **Rieks Van Klinken**.

Below: Enjoying the symposium dinner - **Ricardo Segura** (our weeds' man in Mexico), Tim Heard, Shon Schooler, Alice Yeates and Rieks van Klinken.

Matthew Purcell returned to Australia via the US where he had meetings with collaborators and administrative training in Washington. Shon and Mic travelled north to Holland to meet with collaborators then Shon headed to his homeland in the US and Mic returned to Montpellier via the CABI lab in Delemont, Switzerland. Rieks and Tim enjoyed each others company in cattle class returning directly to Australia. The privileges of economy class were softened by onboard refreshments. The next symposium will be in Hawaii in 3 or 4 years time.

Mic Julien returned home in May on leave from Montpellier, France. We all managed to catch up with Mic while he was working at LPL for a week and he also travelled to Canberra for a couple of days. Mic is enjoying his current role as OIC of the CSIRO Montpellier and everyone enjoyed catching up with him. A lunch time BBQ for Mic saw the return of some familiar faces to LPL – including **Sandra Avendano**, Mike Day and **Shaun Kolomeitz**.

Di Taylor has commenced a six month secondment to DNR&W at the Alan Fletcher Research Station in nearby Sherwood. Di is researching biocontrol of weeds and is working with Bill Palmer. In her time at CSIRO, doing her PhD funded by the Weeds CRC, Di has been successful in giving our group a profile in the area of non-target impacts of biocontrol agents. She has won an award for the best student presentation to a conference and she has recently got a paper published in Biological Control, the top journal in the field.

Two new postdocs have joined the Tropical Weeds group. **Lauren Quinn** and **Karen Bell** turned up on 2 July to start work on weed ecology and biocontrol agent selection respectively. More of them later.

Felix Bianchi, from Wageningen University, Netherlands, joined our pests group in January. Felix will be working in his current position until October 2009. The project is called 'Capturing Ecosystem Services of Pest Control from Native Vegetation' funded by LWA (Land and Water Australia) and Cotton Communities Catchment CRC. Felix's expertise is spatial modelling and

experimental ecology.

Tim HEARD

Department of Primary Industries and Fisheries

Biosecurity Queensland

Michael Day travelled to Fiji in June as part of an ACIAR-funded biocontrol of *Mikania micrantha* project. Apart from a few administration and financial issues, other project activities are developing well. The rust *Puccinia spegazzinii* should be imported in early July, while the quarantine at Koronivia Research Station is been given a new roof, prior to the re-introduction of the butterfly *Actinote thalia pyrrha* in August. *A. thalia pyrrha* is beginning to control mikania in Indonesia and is spreading rapidly to new areas. Preliminary growth studies in Fiji and PNG, suggest that mikania is living up to its common name of mile-a-minute and is able to smother taro and other crops within a few weeks.

Michael DAY

Food Protection Team

The CRC for National Plant Biosecurity's recent bid for supplementary funding from DEST's CRC Programme was successful, and a new Post-Harvest Integrity Research Program will be added to the Centre from 1 July 2007, led by **Dr Pat Collins**. The goal of the new program will be to maximise the value, integrity and competitive advantage of Australia's post-harvest supply chain, focussing on the grains industry. The CRC's successful bid included substantial investments from GRDC, CBH Ltd, ABB Grain Ltd and GrainCorp Operations Ltd, which will be directed towards new projects across all of the CRC's seven research, education and delivery programs. The CRC is currently seeking ideas for collaborative research projects to enhance biosecurity for the grains industry. If you have an idea for a project in this area, or would like further information about the CRC, please contact Pat Collins (email pat.collins@dpi.qld.gov.au or phone (07) 3896 9433) or visit the Centre's website at www.crcplantbiosecurity.com.au.

Pat COLLINS

Entomology at QUT

Things have been very busy entomologically at QUT since our last report. The ACIAR funded TaroPest project, which has developed a "one-stop-shop" for pests and diseases of taro in the South Pacific, has been completed. The CD and field guide have been widely distributed, while an on-line version can be found at http://taropest.sci.qut.edu.au/. A large body of the TaroPest project was carried out by **Amy Carmichael**, who will hopefully being taking her web development skills into a new web-based biosecurity project with **Ken Walker** and **Gary Kong**. **Eve White** has submitted her PhD entitled "*Indirect interactions between alien and native Senecio species as mediated by insects*", while Michael Duffy's masters thesis "*Population phenology and natural enemies of Paropsis atomaria in South-east Queensland*" has been passed.

Major energy is going towards the development of a biosecurity/invasion biology thrust at QUT. The university has become a core member of CRC National Plant Biosecurity and a

number of new collaborative projects have been approved, or are developing, in areas such as mathematical risk analysis, diagnostics, market access and post-harvest integrity. To support this work, colleagues from a number of different biological and mathematical disciplines are making the transition across to the dark side (ie to invertebrates), while new appointments are also being made. **Tony Clarke** has the nominated role of being the link between the CRC and QUT staff and is spending even more time than usual in meetings. He intends to claim an office at DPI&F Indooroopilly any day. The School of Natural Resource Sciences at QUT are in the final stages of filling two new, five-year academic appointments in biosecurity and invasion biology, one in the field of insect/plant interactions, the other in quantitative biological risk analysis. Our pool of applicants was not large, but of very high quality. By the next *Myrmecia*, these appointments should be confirmed and public. As part of the biosecurity thrust, QUT is collaborating with LaTrobe, Uni Adelaide, Murdoch, Charles Darwin Uni and the CRCNPB to develop and deliver an on-line postgraduate program in plant biosecurity, with funding through the DEST CASR scheme. Initial phases of the project are demonstrating huge industry support, making it happen is the tricky bit.

Tony CLARKE

Queensland Institute of Medical Research (QIMR)

The Mosquito Control Laboratory, QIMR, is continuing an active research program investigating arbovirus disease control both locally and abroad. Research is continuing on a number of fronts, including Ross River and Barmah forest virus disease surveillance, expansion of *Aedes aegypti* control using *Mesocyclops* copepods in Vietnam and the investigation of *Wolbachia* endosymbiotic bacteria as potential mosquito control agents as part of Gates Foundation funded "Grand Challenges in Global Health" project.

Hau Tran (Institute Pasteur - Ho Chi Minh City Vietnam), PhD Student QIMR and School of Population Health at University of Queensland, has returned to the Mosquito Control Laboratory (June-July 2007). Hau's research forms part of a large AusAID funded, five-year project (2005-2010) which aims to reduce dengue risk in rural areas in southern Vietnam that are receiving new water supply infrastructure. This project, in collaboration with Centre for Water Supply and Sanitation (CERWASS) and the Administration of Preventive Medicine in Vietnam, and the Australian Foundation for the Peoples of Asia and the Pacific, will establish broad inter-sectoral collaboration to devise, trial and refine new approaches to dengue control in three provinces in southern Vietnam: Ben Tre, Long An and Vinh Long, areas with consistently high incidence of dengue (95,640 cases reported between 1994-2004, including 181 deaths). Hau has been undertaking quantitative surveys for dengue vector (*Aedes aegypti*) immatures in households in rural areas southern Vietnam. Hau is specifically targeting houses that have received new water supply infrastructure (piped water schemes [292 – 3000 houses per commune], water storage tanks and jars [520 - 720 per commune], and school toilet blocks [1 – 7 schools per commune]). Hau found that *Aedes aegypti* densities were high in all communes. The introduction of new water supply infrastructure in some of these communes has resulted in >200% increase in *Ae. aegypti* abundance. In the future, Hau will work with affected communities, and also the water and health sectors, to implement appropriate water management practices to mitigate this risk.

Le Anh Nguyen (National Institute of Hygiene and Epidemiology, Hanoi, Vietnam) recently arrived at QIMR and commenced her PhD (School of Population Health University of Queensland) on spatial statistical analyses of dengue and dengue vector abundance in Vietnam. Hoang-Le Nguyen (National Institute of Hygiene and Epidemiology) is currently a visiting student at QIMR and is also undertaking a Masters of Public Health at University of Queensland.

Following the acceptance of her PhD thesis entitled "Biologically-based insecticides for mosquito control and environmental conservation in south east Queensland", **Tanya Russell** has taken up a research position with Durham University, UK, based at the Ifakara Health Research and Development Centre in Tanzania. Tanya is evaluating the use of entomopathogenic fungi for *Anopeles* control. **Tessa Knox** submitted her PhD thesis titled "Optimising surveillance of immature *Aedes aegypti* in Vietnam" to the School of Population Health at the University of Queensland. Tessa recently departed Australia (6 July 2007) to take up a research position with Professor Tom Scott at the University of California Davis. Tessa will continue her research on *Ae. aegypti* as part of the Innovative Vector Control Consortium which aims to fast-track development of improved insecticides and other mosquito control methods.

Tim Hurst is continuing in his role as Mosquito and Arbovirus Research Committee (MARC) scientist, working closely with a number of SE Qld local governments in an effort to improve regional mosquito control. In late March, Tim travelled to St. Augustine, Florida, where he was an invited speaker at the 4th Arbovirus Surveillance & Mosquito Control Workshop held by the Anastasia Mosquito Control District. Tim presented an overview of 'Mosquito Control in Australia', including information on our target species, local government mosquito control programs and research undertaken by QIMR and MARC. His next stop was Orlando and the 73rd Annual Meeting of the American Mosquito Control Association. Here, Tim gave a presentation on 'The effect of Australian native fish *Melanotaenia duboulayi* on the oviposition behaviour of Australian freshwater mosquitoes'. Both the workshop and conference programs included a wide variety of presentations by both local and international mosquito control professionals. Tim's presentations were well received and reflect the high quality of research being conducted in the area of mosquito control in Australia.

Jason Jeffery is currently co-ordinating laboratory and field based activities associated with the Grand Challenges in Global Health project. Jason's program is divided between the laboratory in Brisbane and frequent field work on Tri Nguyen Island, Vietnam. **Clara Cheah** recently joined the laboratory as a Research Assistant working on Grand Challenges project activities.

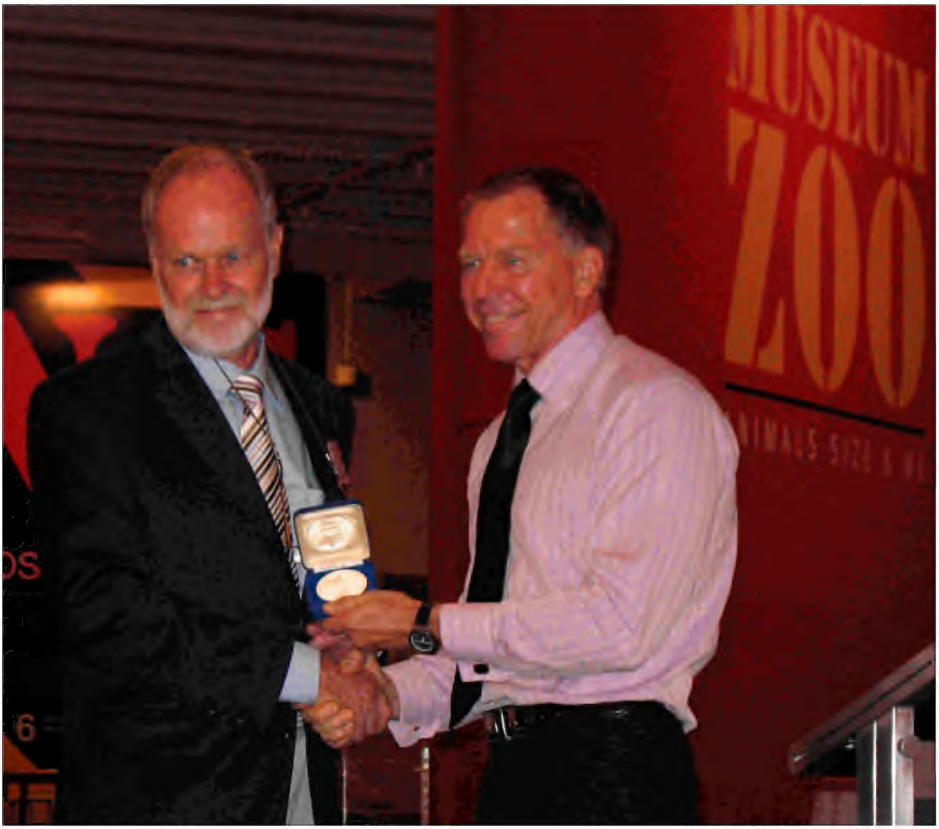
Leon Hugo is continuing research towards the development of gene transcription based methods for predicting mosquito age in collaboration with the O'Neill laboratory, SIB, UQ. Leon gave a presentation the at the 4th India-Australia Biotechnology conference held at QIMR in May on "Innovations in Arbovirus Disease Control".

Leon HUGO

Queensland Museum

Belated congratulations are due to Geoff Monteith, who was awarded a 2007 Queensland Museum Medal (photo next page). Two medals are awarded most years, to honour individuals who have made a major contribution to a field relevant to the Queensland Museum. Geoff has been a major force in collecting and surveying rainforest invertebrates in Australia and the South Pacific since the early '60s. His extensive fieldwork resulted in more than 750 new species being named and many of his collections are housed at the Museum as a unique study resource for researchers worldwide. Geoff and co-recipient Bill Kidston were presented with their medals, by Arts Minister Rod Welford, on Friday, 19th January at a reception held at Queensland Museum South Bank. Geoff has now finished up all his leave and is officially retired.

Congratulations also are due to Chris Burwell, who has been appointed as Senior Curator and Chris Lambkin appointed this week as Curator, thus continuing the name-confusion tradition started by Geoff Monteith and Geoff Thompson. Although retired, Geoff Monteith is still spending



Above: Geoff Monteith receiving the 2007 Queensland Museum Medal from the Arts Minister Rod Welford.

a large chunk of his time in the lab, so that confusion will also continue, compounded by Susan Wright, who is married to museum photographer, Jeff Wright.

We were heavily involved in summer field work for the IBISCA Queensland project (also known as BATH) at Lamington National Park and in surveys in central Queensland at Great Basalt Wall and other areas round Gladstone and Proserpine. Labelling and sorting is currently taking up a lot of time. Unusually, a follow-up winter survey is planned in mid-July at Lamington. This will coincide with Susan Wright's return from long-service leave.

Queensland Museum staff and honoraries were heavily involved in the Entomological Society of Queensland's eleventh BugCatch in late October. Geoff Monteith and Chris Lambkin in conjunction with Jenny Greenland from the Environmental Protection Authority organised day and night collection of insects at the old forestry barracks clearing at Mt Glorious. Fourteen society members (including six Queensland Museum staff and honoraries), 2 visitors, and 3 University of Queensland students collected in a non-public area of excellent rainforest and wet sclerophyll. The weather was a bit cool and showery but diverse collection methods were

Above: Participants watch Geoff Monteith emptying baited pitfall traps during Entomological Society of Queensland's Eleventh Bug Catch.

successfully demonstrated to students and some good catches were made including two specimens of Australia's largest dung beetle (*Aulacopris maximus*).

Geoff Thompson and Chris Lambkin ran Scientific Illustration Workshops at the Queensland Museum on 14th and 16th June. Each workshop ran for six hours and we set a maximum of 15 students per session. Both sessions were sold out and we managed to accommodate two extra students on the Saturday. Chris Burwell will be running two; three-and-a-half-hour workshops on Ants of Brisbane, 19th and 21st July.

We have a new highly-skilled volunteer-researcher in Federica Turco, a Coleopterist who works on Melodidae. Federica has moved to Australia from Rome and has already proved a great help, working on her beetles one day a week and volunteering on another. Federica joins a team of dedicated volunteers without whom the Insect section could not function.

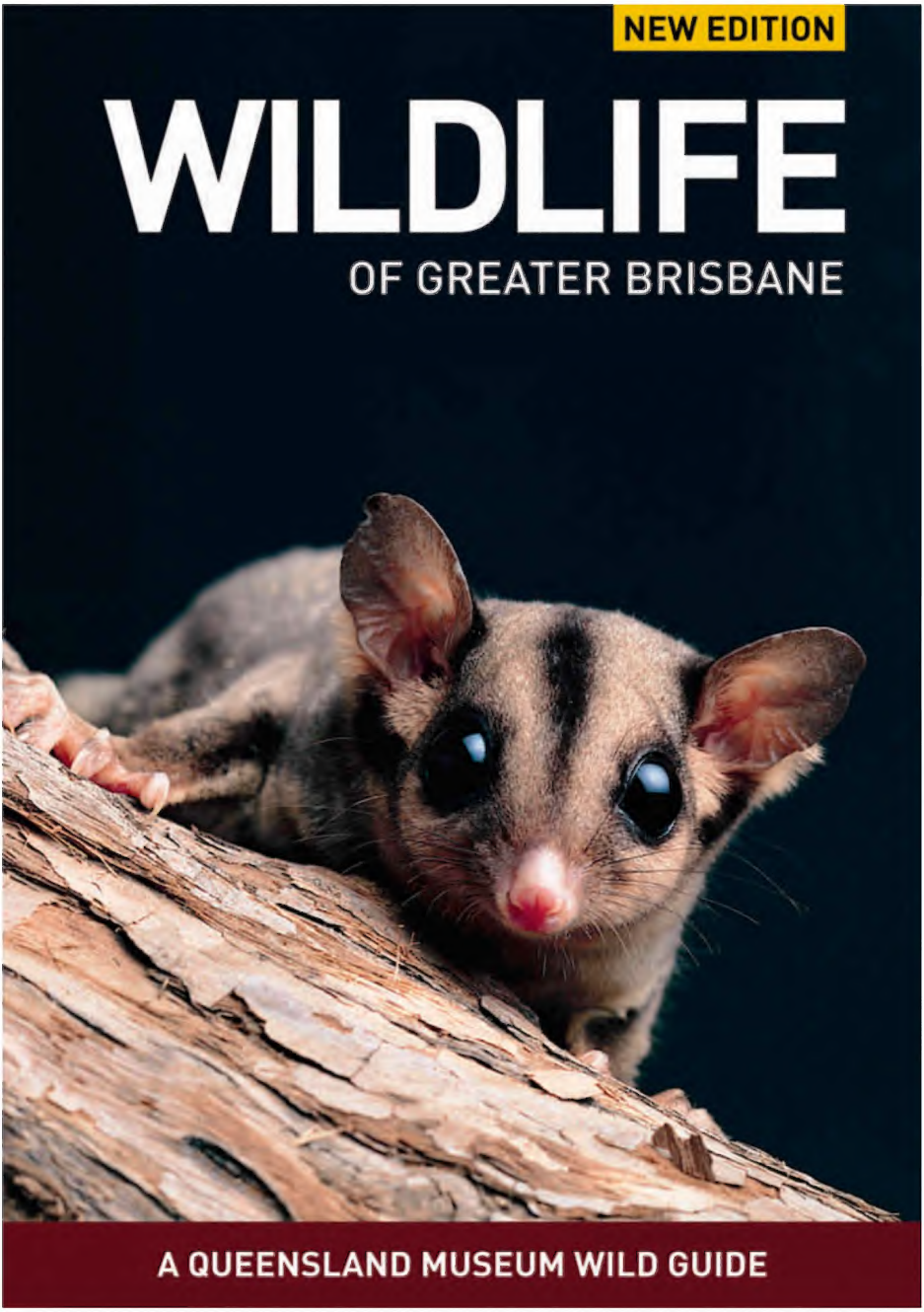
The Queensland Museum has launched a revised edition of its best-selling "Wildlife of Greater Brisbane" with mostly new photography by QM's photographers and over 100 extra pages. This time it is accompanied by four pocket guides, including "Ants of Brisbane" by Chris Burwell, with photographs by Jeff Wright. The other pocket guides cover freshwater fish, raptors and snakes

Above: In the background Christine Lambkin assists while students work diligently during Queensland Museum's Scientific Illustration Workshops.

but the ant guide has outsold them all and already is scheduled for reprinting. The main book also has a much-expanded insect section, covering flies and ants for the first time. "Wildlife of Greater Brisbane" sells for $32.95 and the pocket "Wild Guides" for $9.95 each.

Over page: Covers of the Queensland Museums guides

ANTS
OF BRISBANE
A QUEENSLAND MUSEUM WILD GUIDE



QUEENSLAND – FAR NORTH

QUEENSLAND—FAR NORTH

AQIS – Mareeba - fruit fly program goes organic

Kerrie Huxham reports that at last the 2006/07 fruit fly season may be settling down for NAQS north Queensland. This season has been protracted with June detections of target species resulting in sustained weekly baitspraying and placement of extra male annihilation blocks by DPI&F on some islands. This year the team changed their baitspray formulation and has had success using the organic, Spinocad based product, Naturalure. This has led to many operational and OH&S efficiencies. From December 2006 to June 2007, 58 target fruit fly specimens have been detected in the Torres Strait. This compares with 28 specimens detected the previous season.

DAFF Scholarship update

In January this year Far North Queensland Entomologists **Kerrie Huxham** (AQIS) and **Jane Royer** (DPI&F) travelled to Sacramento, USA as part of the DAFF taxonomy bursaries awarded in March 2006. Jane and Kerrie spent 2 very intense and cold weeks with world expert **Gillian Watson**, Senior Insect Biosystematist from California Department of Food & Agriculture, studying the taxonomy of aphids (Jane) and scales and mealybugs (Kerrie). Gillian proved to be an excellent teacher sharing many of her photographic images and unpublished tips. Time was also spent with **John Donaldson** in Brisbane who was equally keen to share his expertise. The bursaries were completed in June 2007 and the increased diagnostic capacity in these groups in far north Qld is starting to prove invaluable.

Below: Jane Royer, Gillian Watson and Kerrie Huxham in Sacramento learning aphid, scale and mealybug taxonomy.

The Grapevine

Mohamed Sallam (BSES Meringa) is digging grubs, **Jane Royer** (DPI&F Cairns) is back from long service leave, lots of entomologists gathered at **Max Moulds** place for the Great Ento BBQ (more next issue) and there is no genetic variation in **Kylie Andersons** bugs (dang!).

Thanks to Kerrie Huxham for her contribution. That's it from north Queensland this quarter. I think everyone must be exhausted, either from contributing to the large column published last quarter, or it could be the clean-up effort from the devastating tsunami.

Kylie ANDERSON

WESTERN AUSTRALIA

Curtin University of Technology

Brian Heterick is almost ready to submit to the WA Museum for refereeing his monograph on the ants of southwestern Australia. The work is being prepared for publication in the 'Records of the Western Australian Museum, Supplement' series. Included is a key to workers of all currently recognized ants, both described species and undescribed morphospecies, found in the region (around 500 in number). Other features include over 700 line-drawings, SEMs of diagnostic features of 10 southwestern ant subfamilies and discussions concerning various aspects of importance to both students of ants and the general public.

Under the student exchange between Curtin and the Federal University of Vicosa, Brazil, **Nicinha de Souza** has arrived to work on the biodiversity value of eucalypt and pine plantations that have been put in near Esperance to lower the water table and reduce waterlogging/salinity problems.

University of Western Australia

School of Population Health

Andrew Jardine has been leading the way in establishing Public Health Entomology as a strength at UWA's School of Population Health: He has just submitted his PhD under the watchful eyes of **Phil Weinstein** and Mike Lindsay. Andrew investigated the extent to which dryland salinity and waterlogging (resulting from land clearing for agriculture since European settlement in inland south west WA) has led to succession in mosquito species. The trend is towards increasing dominance of *Aedes camptorhynchus*, the principal Ross River virus (RRV) vector in the region, and thus an increased potential for RRV transmission. Andy's work represents the first attempt to prospectively investigate the influence of secondary soil salinity on mosquito-borne disease by combining entomological, environmental and epidemiological data. For his efforts he has now been offered a teaching and research position in the School – who said there were no jobs for entomologists?

Left: Mosquito trap in salinity devastated landscape, S-W Western Australia. (Photo by Scott Carver).

Clarissa van Schie a fourth year student at the University of Western Australia has also been studying mosquitoes under the supervision of **Phil Weinstein** and **Helen Spafford Jacob**

(School of Animal Biology). Clarissa has just finished a study to determine the salinity tolerance of *Aedes camptorhynchus* from different regions of southwest Western Australia. Clarissa found that *Aedes camptorhynchus* is capable of surviving very high salinities and was the most dominant mosquito species in southwest Western Australia and a major vector of human diseases.

VICTORIA

CESAR, University of Melbourne

Drosophila is employed in a wide variety of projects at CESAR in research into climatic stress, for example, candidate genes and phenotype association studies. Post doctoral researchers Mark Blacket and Lea Rako have recently examined phenotypic traits such as heat and cold resistance (thermal tolerance) in *Drosophila melanogaster* lines to test their associations with candidate genes. With some help from honours student Madeline Barton, they have also been examining associations between candidate genes and thermal tolerance and field fitness, measured as the ability to disperse and locate a food resource.

First year PhD. student Kate Mitchell has been investigating local adaptation in the rainforest restricted *D. birchii* in response to habitat fragmentation. Work by visiting post doctoral researcher Yvonne Willi from Switzerland found populations from fragments, whilst having a faster development time than those from intact habitats, were more likely to go extinct under laboratory conditions. This indicates that while *D. birchii* seem to be responding to strong competition for resources in these habitats, it is likely their overall adaptive potential is quite limited. Currently Kate is working on elucidating whether this relationship exists by examining the levels of starvation resistance and development time after five and ten generations bred on food of varying quality.

Third year PhD students Belinda van Heerwaarden and Vanessa Kellermann are continuing their research examining the adaptive potential of rainforest species. Their earlier work highlighted that two rainforest restricted species of Drosophila have low additive genetic variance, and thus evolutionary potential for the trait desiccation resistance. Further work by Vanessa on other rainforest species and other stress traits has found that rainforest species in general appear to have low additive genetic variance for stress traits in comparison to high variation in molecular markers and morphological traits. In collaboration with visiting post doctoral researches Torsten Kristensen and Yvonne Willi, Belinda has been examining whether a population bottleneck can break up genetic interactions to increase additive genetic variance for desiccation resistance in the rainforest restricted *D. bunnanda*. Although additive genetic variance increased in some of the bottleneck lines, it was not enough to enable a selection response. These results were recently presented at the Society for the study of evolution conference in Christchurch, New Zealand.

Honours student Clare Doig and first year PhD student Lauren Carrington have been looking at the endosymbiont *Wolbachia* in *Drosophila melanogaster* and *D. simulans*. They are considering the effects of a life shortening strain of Wolbachia and its interaction with the host genome. Furthermore, the potential of X-ray irradiation to artificially create life-shortening strains of the bacterium is also being investigated. The overall aim is to understand the infection dynamics of Wolbachia and its hosts, both native and novel, with the long-term goal of this work being to contribute to a larger project aimed at reducing the spread of Dengue Fever to humans.

Belinda VAN HEERWAARDEN and Linda THOMSON

CONFERENCES

Australian Entomological Society's Conference

Beechworth 23 - 26 September 2007

La Trobe University

Expression of Interest

Expression of Interest forms are available at http://aes2007.org/eoi.php

Call for Abstracts

Abstracts are now being accepted. They can be submitted at http://aes2007.org/abstracts.php

PREPARATION OF ABSTRACTS

Abstracts are required for all presentations, including posters.

Deadline for submission of abstract: **30 July 2007**

Abstract:

The Abstract should comprise three paragraphs (Title; Authors; and Abstract), laid out as in the following example. Please follow the guidelines below. For oral presentation please underline the presenting author.

Please note a prize will be awarded to the best Student Oral and Poster Presentation

CRC for Forestry
Researching sustainable forest landscapes

Forestry Tasmania
GROWING OUR FUTURE

IUFRO

"Old Forests, New Management"
Conservation and use of old-growth forests in the 21st century

An international scientific conference to be hosted by the CRC for Forestry, Forestry Tasmania and the International Union of Forest Research Organisations

17-21 February 2008
Hotel Grand Chancellor, Hobart, Tasmania
http://www.oldforests.com.au

Theme

Old-growth forests in temperate and boreal regions are places of great beauty and importance to people. These forests are often managed for conservation and biodiversity value and as an important resource for timber production, so their management has inevitably become subject to a range of societal pressures. Current management practices for old-growth forests are increasingly informed by an understanding of the disturbance events that trigger forest regeneration. Research from several long-term experimental sites now allows a fresh look at ecologically based silviculture in forests managed for wood production.

This conference will bring together researchers from a range of disciplines focussed upon achieving ecologically sustainable management and use of old-growth forests. It will include coverage of modern approaches being developed worldwide. The conference will include a visit to the Warra Long-Term Ecological Research site in southern Tasmania, which is partly in a World Heritage Area and also contains a silvicultural systems trial that has explored alternatives to clearfelling of old-growth forests. The visit will provide an excellent opportunity to view tall old-growth eucalypt forests and discuss alternative silvicultural systems for wood production and biodiversity management.

Last updated 9 May 2007

ICE 2008

July 6 - 12, 2008
Durban, South Africa

www.ice2008.org.za

XXIII International Congress of Entomology

INVITATION

Hosted by

The Entomological Society of Southern Africa

To be held at the International Convention Centre, Durban, South Africa.

We are delighted that the Council for International Congresses of Entomology has decided to select South Africa as the site for the next ICE. The Entomological Society of Southern Africa will ensure that this congress lives up to the best traditions of previous congresses and that the scientific programme will have a significant impact on the development of the discipline for the benefit of the peoples of the African continent and elsewhere.

Africa is the only continent that has yet to host an International Congress of Entomology. The hosting of such an important event will undoubtedly be of enormous benefit in generating solutions to the many pressing entomological challenges facing the continent, especially those related to human health, food security and the documentation of its hugely diverse but poorly known arthropod fauna.

The Congress will also provide a unique opportunity for African scientists to meet and interact in large numbers with entomologists from across the globe. We urge our colleagues throughout the world to use this opportunity to get a glimpse of the continent's rich and fascinating insect fauna and to enjoy the hospitality of their African friends.

Robin Crewe
President: ICE 2008

Scientific Programme

The Scientific Programme covers all aspects of Entomology. You are invited to submit suggestions for subjects and possible organisers of symposia that will fit into the sections listed on our website.

South Africa A World in One Country

Durban, Gateway to the Kingdom of the Zulu has much to offer the visitor to South Africa. Nestling on the shores of the warm Indian Ocean, the city has golden beaches, beautiful parks and gardens, museums, theatres, excellent sports facilities and world class shopping malls.

Modern hotels are located in close proximity to the International Convention Centre Durban and a superb air and land infrastructure exists.

A variety of organized tours will allow visitors to view our rich and diverse cultural, historical, geographical and natural attractions. Outstanding wildlife game reserves are just a few hours from the city centre.

The exciting accompanying person's programme will give you and your companion a taste of Africa's warm and wonderful hospitality.

For more information about **ICE2008** please visit the Congress website: **www.ice2008.org.za**

Entomological Society of Southern Africa

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GENERAL INTEREST

Collecting biological specimens in the Northern Territory with particular reference to terrestrial invertebrates: guidelines to current legislation and permits

The following Northern Territory Government web site document (http://www.nt.gov.au/nreta/wildlife/permits/pdf/invertebrates.pdf) provides an overview of current legislation and permits regarding the collection of biological material, particularly terrestrial invertebrates, in the Northern Territory under the *Territory Parks and Wildlife Conservation Act* and *Environment Protection and Biodiversity Conservation Act* (*EPBC Act*). The document defines several terms under the Northern Territory Government *Act*, types of permits issued by the Northern Territory Parks and Wildlife Service, and outlines various land management systems in the Northern Territory. Contrary to popular belief that all insects and invertebrates in the Northern Territory (estimated to range from 24,900 to 63,500 species for insects) are protected, only 48 species, from the Phyla Mollusca (31), Chelicerata (13) and Insecta (4), are currently listed as Protected Wildlife. Of the protected species, 35 are designated as Threatened Wildlife, of which five are also listed nationally under the *EPBC Act*. However, all native invertebrates that occur within the boundaries of national parks and other conservation areas managed by the Northern Territory Parks and Wildlife Service or Parks Australia are protected under the *Territory Parks and Wildlife Conservation Act* or *EPBC Act*, respectively. Relative merits of the current legislation and permit system are also discussed.

Michael BRABY

BOOK REVIEW

The Complete Field Guide to Dragonflies of Australia, by Günther Thieschinger and John Hawking. CSIRO Publishing ISBN: 0 643 09073 8, 2006, 376pp, colour illustrations, paper cover. Trade sales in Australia through Steve Parish Publishing for $49.95 (exclusive postage and handling), or online at www.publish.csiro.au.

The book is well structured, it contains information for beginners and advanced field workers.

The **introduction** includes a brief description of the differences of the two Suborders. Odonata are primitive predatory insects, which contain the delicate looking damselflies (Zygoptera) and the more robust looking dragonflies (Anisoptera).

The Guide also reflects on the high **endemism** rate of the Australian fauna. First records of these primitive insect were found from the Perm period (280-225 million years ago), when Australia was still part of the Gondwana continent. This means Odonata are a large, primitive order of insects with a fairly conserved body plan and life history which shows incredible behavioural variation and ecological flexibility, which still amazes many people these days. Due to their age and the long isolation of Australia they show a high level of endemism.

Life Cycle – Egg, Larvae, Adult

The Field Guide includes also the hemimetabolous life cycle of these eye catching insects.

There are three stages - egg, larvae and adult – the first two stages develop under water, and the adults hover over terrestrial habitats. All descriptions include explanatory drawings or

pictures from the relevant characters in each stage.

The three chapters Ecology, Habitats and Conservation explain why different damsel- and dragonflies choose different water bodies, which provides many useful features for any biologists, ecologists, behavioural ecologists and naturalists. It also shows examples for adaptations of larvae to a specific habitat chosen. Still water pools, ranging from billabongs to temporary streams, are inhabited by "opportunistic" species whereas "riverine" species have adapted to a life in rivers and streams from the alpine region down to the estuaries. The authors also mention some interesting micro-habitats in tropical rainforests where you can come across dragonfly larvae in water-filled tree holes and moist leaf litter.

A brief statement on conservation covers some of the threatened species in Australia with examples given for New South Wales and Victoria. Some insects including dragonflies are indicator species of environmental well-being. Therefore it is important to gain detailed knowledge of the dragonfly fauna and their habitat needs. This should be a basis for decisions on environmental protection and land-management.

This book covers all known Australian damsel- and dragonflies, it contains 30 families, 112 genera and 324 species found in this diverse part of the world.

The Species Guide contains not only the scientific names but also a list of common names.

Distribution maps are provided for each species as well

For each species a description of morphological features is provided as well as a list of known habitats. Special features of adults and larvae are described and discriminative characters illustrated. Furthermore, magnificent colour photographs of each species allow you to verify your identification.

The overall layout of the book is brilliant with all the pictures and descriptive characters, although there is one minor criticism. The identification key is currently well hidden in the back of the field guide, whereas it might be easier to locate if it was placed within one of the first chapters of the book. The same accounts for the illustrated glossary. It is a must-have field guide for anyone interested in dragonflies, or even insects in general, and should be a stimulation for students and other nature lovers to have a closer look at dragonflies hovering around their gardens.

Holger LOECKER

AUSTRALIAN ENTOMOLOGICAL SOCIETY Inc. RESEARCH GRANTS - CALL FOR APPLICANTS

The Executive takes pleasure in calling for applications for the Australian Entomological Society Research Grants to be awarded in 2008.

The scheme is intended to encourage the advancement and dissemination of entomological knowledge, particularly in relation to the Australian fauna. Applications for conference travel will not be considered.

The grants are primarily for small, short-term projects and will be available only to members of the Society of at least 12 months standing. Groups will be eligible provided that the primary

researcher is a member. Total funds available will be in the order of $2000.

A report to the Executive in a form suitable for publication in *Myrmecia* will be required at the end of the project or, at the latest, by December 2008.

Each application needs to state clearly:

· the aim of the project
· the expected duration of the project
· a detailed budget, and
· contact addresses (including email) and telephone numbers of the participants

The names of one or two referees may also be supplied.

The Society Executive will appoint a selection panel to allocate and administer the grants. Applications may be for any amount up to $2000 but remember that small, short-term projects which enable a diverse range of work to be funded will be favoured. Successful applicants for 2008 will be notified in December and published in the February 2008 issue of *Myrmecia.*

Three copies of your application should reach the Secretary at the following address no later than 31 October 2007.

Prof. G.M. Gurr
Secretary, AES
Charles Sturt University
PO Box 883
Orange NSW 2800 Australia

Science Meets Parliament 2007

Stephen Doggett, Department of Medical Entomology, ICPMR, Westmead Hospital, NSW 2145.

For those of you who are unfamiliar with Science Meets Parliament (SmP), this forum is an opportunity for Australian scientists from around the country to gather in Canberra to meet with Federal Parliamentarians in order to discuss scientific issues that affect the current and future well-being of the nation.

The forum is over two days; the first is a briefing day to discuss the procedures for meeting with the politicians on the following day, including all the important 'does' and 'don'ts'. A large portion of the briefing day is devoted to the process of lobbying politicians, and several former Parliamentary staff and lobbyists detailed their experiences and successes. Other speakers included Senator Kim Carr, the Shadow Minister for Science, who spoke on the scientific platform of the Labor Party. Professor Peter Schofield, Prince of Wales Medical Research Institute, gave a captivating talk on one of the most public and emotively charged reports in recent history, namely the Lockhart Committee, which reviewed the legislation relating to human cloning and research involving human embryos.

The first day of the forum also coincided with the release of one of the most significant reports on the future of science in Australia; the Productivity Commission's (PC) 'Review of Public Support for Science and Innovation'. The key points of this report were:

The benefits of public spending are likely to exceed the costs, & the pursuit of commercialisation

for financial gain by Universities should not be to the detriment of maximising the broader returns from the productive use of university research.

In another words, pure research should be encouraged...Hallelujah!!!

Left: The Honourable Member for Parramatta, Julie Owens (left) meeting with Prof. Stefan Broer (ANU, middle), Stephen Doggett (Westmead Hospital, right) and Justin Zhu (DSTO, taking photo). Image courtesy Justin Zhu

The report also embraced the concept of 'preparedness'; a key issue with the recent threats of pandemic disease activity. It was also heartening to hear Senator Jim Carr state that the Labor Party is committed to adopting all the recommendations of the PC report. It is a great pity that the same cannot be said by the incumbent coalition government. Further details of the report can be found at http://www.pc.gov.au/.

The first day also provided opportunity to speak to fellow scientists from various backgrounds, which included such diverse areas as astrophysics, medicine, ecology, nuclear physics and mathematics (to name a few), along with entomology. There was also a range of experience, from PhD students to internationally renowned scientists. The common theme from many was the general despair for the future of their profession; student numbers are dwindling, courses are being cut, support for their research areas has been waning, and many bemoaned the poor quality of candidates for the all too rare position. One mathematician gave the depressing figure that 45% of all secondary mathematic teachers are actually untrained! Thus it appears that all of our sisters and brothers across all scientific professions are united in their concern for the future of science in Australia and thus the PC report could not have been more timely.

The final part of the first day was a dinner in the Great Hall of Parliament House. Having John Doyle (aka Roy Slaven) as the MC ensured a night of merriment, which was tempered by a disturbing presentation on global change by Prof. Will Steffen. Also, Nic Svenson and Piers Barnes of CSIRO gave details of their research on calculating the number of photographs you must take to ensure that nobody in a group photo will have their eyes closed; this glamorous research was honoured with the award of an Ignoble Prize.

The Federation of Australian Scientific and Technological Societies (FASTS) provided excellent notes for the forum, with full contact details of all Parliamentarians. One word of recommendation to future participants; it is wise to bring these notes to the dinner as it is likely that you will be sitting next to a politician that you may have never heard of before and it is useful to know their political allegiances before engaging them in conversation.

The second day of the forum is when the scientists have the opportunity to meet with the politicians. Some weeks prior to SmP, the politicians who agreed to participate in the forum were sent a list of discussion topics and asked to select two and these would form the basis of the discussion with the scientists. My experience was that these topics were largely forgotten and the politicians were happy to listen to any issue the scientists wished to discuss. Each meeting was scheduled for 30 minutes, with three scientists (often of diverse backgrounds) attending. This generally meant that each scientist had only around 5-8 minutes to raise any topic important to him or her, and thus the time provided for only one major discussion point.

FASTS do their utmost to marry the experience of the researcher to the portfolio of the politician and I was fortunate enough to meet with the Hon. Fran Bailey and the Hon. Julie Owens. Ms Fran Bailey (Lib) is the Minister for Small Business and Tourism and much of my recent research on bed bugs has direct relevance to her tourism portfolio, as the accommodation industry has been heavily financially impacted with the recent resurgence of this insect. For example, conservative estimates are that bed bug infestations have increased by 50,000% since the year 2000 and the cost to the accommodation industry has well surpassed $100million and is growing rapidly. Ms Fran Bailey was also present at the 2006 AEPMA/FOAPMA pest management conference with the launch of '*A Code of Practice for the Control of Bed Bug Infestations in Australia*', and thus the Minister had previously been briefed on the issue, but she still listened with great interest to this growing problem. Ms Julie Owens (LP), who has the shadow Arts portfolio, is the member for Parramatta, which includes Westmead Hospital and is also my own local electorate. My discussion with Ms Owens focussed on the issue of Maggot Debridement Therapy (MDT); the deliberate placement of fly larvae onto wounds to promote cleansing and healing. This was followed by a very frank and open discussion on local issues, including the voting demographics of the electorate.

It is important for future participants to have a flexible approach to these meetings; for example I had no intention on discussing MDT, the conversation just happened to flow in that direction. There were several issues I was hoping to mention such as the future threat of mosquito-borne disease in Australia and the lack of entomological training at all levels of academia, but was unable to do so due to time constraints. There was a tendency for the politicians to be more interested in issues local to their electorate; perhaps not terribly surprising in an election year. Thus future SmP participants should whenever possible try to highlight the importance of their research in the context that would be beneficial to the elected representative's constituents.

I suppose the question that many would ask, is whether there are any direct tangible benefits with these meetings? In my case, there were probably none. However, I was told by a fellow scientist that at a recent SmP, during a hypothetical debate on bird influenza pandemic, the Minister for Health Tony Abbot, was first made aware of the extreme logistical problems faced by pathology laboratories in testing the sheer number of human samples during such an outbreak. This led to a prompt review of bird flu pandemic planning.

We can no longer risk having the leaders of our nation being ignorant of important scientific matters. Already, we have a government that has been accused of short-sightedness over global warming and has repeatedly refused to undertake any amelioration measures, despite the much publicised long-term consequences and the detriment to the nation. There are religious leaders who threaten politicians over conscious voting for stem cell research, work that can offer great

benefits to society. Likewise, the extreme right wing element is trying to push their fundamental and extremely misguided beliefs into schools, such as the paradoxically termed 'Intelligent Design'. The instilling of such views can only lead to greater scientific ignorance within the community. Finally we are witnesses to, what can only best be described as a prostitution of science, with abuses of research such as 'scientific whaling'.

There are many threats and challenges to society for the years to come, and the scientific community will have to play a critical role in solving these challenges. It thus becomes imperative that our political leaders are educated on important scientific matters, and so I encourage all of you to attend 'Science Meets Parliament' at the first opportunity to do so.

Stephen DOGGETT

Science meets Parliament is an annual event that began in 1999. This year it was held on Tuesday March 27th and Wednesday March 28th. It was an intense and interesting forum that gave scientists the opportunity to develop their lobbying skills and discuss the implications of their work with fellow scientists and federal Parliamentarians. The first day was a "Briefing Day" at University House (the Australian National University). The "Briefing Day" was designed to introduce scientists to the lobbying process in Federal Parliament, get to know one another and prepare for the next day's meetings with Parliamentarians. This day was well run and characterised by some outstanding speakers who presented their experience of lobbying and the role of science in policy in a clear and informative manner.

On the second day most participating scientists had at least two meetings with a Government Member/Senator or a non-Government Member/Senator. Others had meetings with senior policy advisors. All the Parliamentarians had chosen topics that they were interested in discussing and scientists were matched to best serve their needs. The meetings with Parliamentarians were conducted in their office and the scientists were also matched with at least one other scientist whose interests were either complementary or similar. With two other scientists I met Sussan Ley MP (NAT), Senator Andrew Bartlett (DEM) and Senator Patricia Crossin (ALP). The key interests that these Parliamentarians identified prior to the meetings varied depending on personal interest, the needs of their electorate and their role within Parliament. Their interests were broad; ranging from information on science, agriculture and land use to renewable energy and climate change.

The key challenge in meeting these Parliamentarians was to ensure that the scientists' issues were presented in a coherent fashion and were relevant to the particular Parliamentarian's territory or electorate. For instance, while I was scheduled to meet with Senator Bartlett to discuss the decline of entomological expertise and the implications for natural resource management, it was important to stress its relevance to his electorate. Prior to meeting Senator Bartlett, Drs Peter Twine, Roy Lovel and I prepared for the meeting by identifying the commonalities in our various perspectives. For example, Peter Twine was attending the 'Science meets Parliament' meeting to highlight the decline in expertise in plant pathology; hence we were able to present the common issue of falling funding and enrolments in the fundamental sciences. This united approach made a more compelling case in our meetings with the Parliamentarians.

I described the historical and future role of entomological expertise in Australia in the areas of natural resource security, productivity, sustainability and management in the context of agriculture and the Australian economy. I argued that the decline in entomological expertise put at risk our ability to identify and manage risks to this important segment of our economy and natural heritage. The salient points of my argument were:

The critical role of entomological expertise plays in monitoring and assessing the health our freshwater resources

The reliance of many agricultural industries on entomological expertise to manage insect pests and diseases.

The role that entomological expertise can have in reducing Australia's vulnerability to potential changes in the climate due to global warming. Dr Sarah Mansfield provided information on the southward spread of the Silverleaf Whitefly and its likely economic impact on cropping and greenhouse industries.

Increased funding to attract new students to entomology and to build on existing expertise would be an investment with very high returns: it would improve the sustainability and management of Australia's commercial and natural assets.

"Science meets Parliament" bought together scientists from around Australia and facilitated face-to-face meetings and fora with Parliamentarians in Canberra. I found it both stimulating and productive. I had the opportunity to observe the role of scientific knowledge within public policy, parliamentary debate, as well as meet various scientists from a broad range of disciplines.

Liza J MILLER

MEMBERSHIP NOMINATION FORM

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SCHOLARSHIPS

CHARLES STURT UNIVERSITY
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APAI PhD Scholarship (Approx AU$25,000 tax exempt per annum plus allowances and operating costs. Commencing August 2007)

Ecology of natural enemies

Charles Sturt University in collaboration with Lincoln University (NZ), Washington State University (USA) and Organic Crop Protectants Pty Ltd.

A suitably qualified student is sought to undertake a PhD based in Orange, NSW. The work will combine two fast-moving areas of applied insect ecology to develop an 'attract and reward' strategy for the control of agricultural pests. The 'attract' component exploits compounds that are produced naturally by plants when under attack by herbivores to attract natural enemies. Recent research has shown that artificially-applied compounds can draw predators and parasitoids to specific crops. We will augment this strategy by 'rewarding' those predators and parasitoids with within-crop sources of nectar, pollen and shelter. This will maximise the magnitude and duration of their impact on pest populations.

The ideal candidate will have a first or upper second class Honours or Master degree in agriculture, horticulture or biological sciences with a specialisation in pest management, entomology or ecology but candidates with other backgrounds, including practical experience, are also encouraged to consider applying. A valid driver's licence will be required for fieldwork.

For more information on the project, contact Prof. Geoff Gurr (email: ggurr@csu.edu.au).

Closing date 1 August 2007

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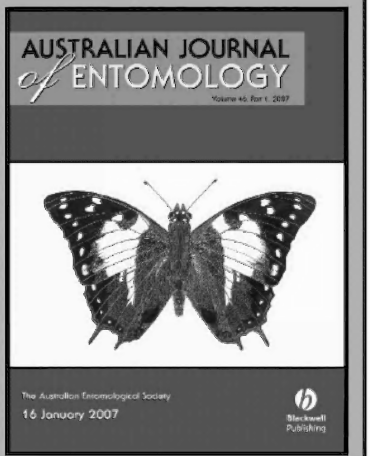
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